



POWERING THE BLUE ECONOMY™:  
**POWER AT SEA PRIZE**



AMERICAN  
**MADE**  
CHALLENGES

U.S. DEPARTMENT OF ENERGY  
NOAA

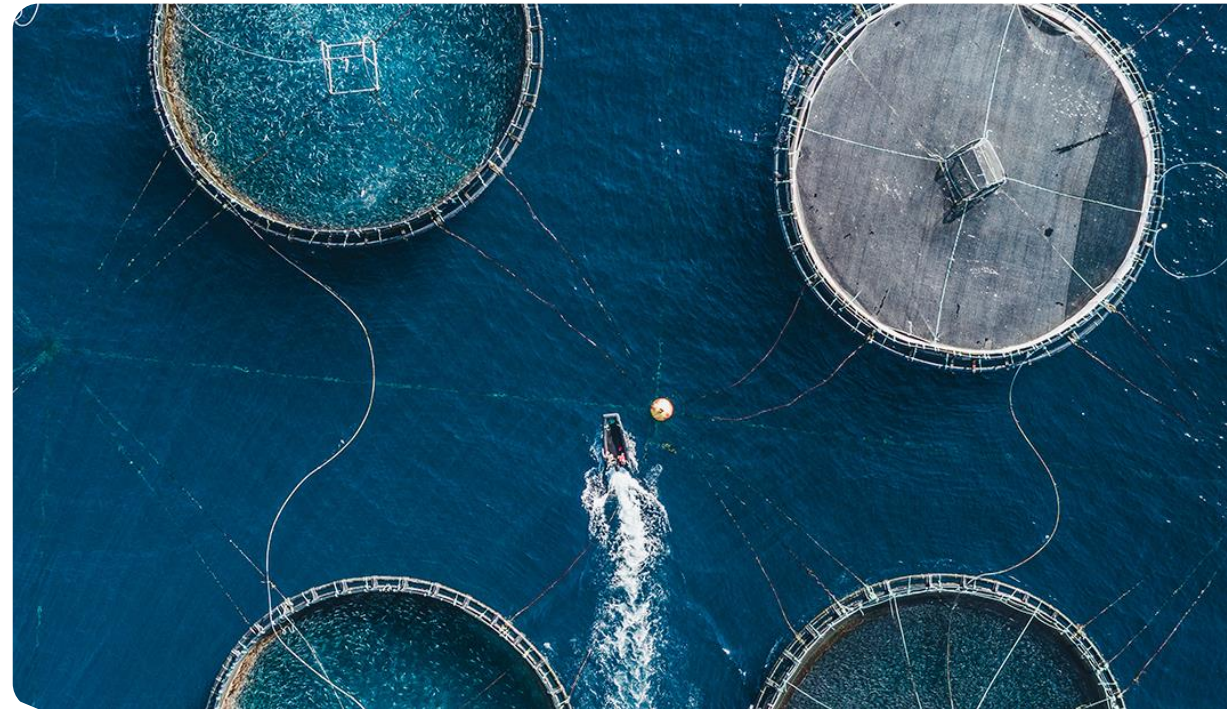


July 10, 2024

**Power at Sea Prize: APPLY!**

This webinar is being recorded.

You can unmute to ask us questions, but if you have technical difficulties doing so please use the Q&A to ask your question.



## Other webinars and resources

- [Power at Sea Prize Overview](#)
- [Power at Sea Prize: ASK!](#)
- [Power at Sea Prize: EXPLORE!](#)
- [Power at Sea Prize: INNOVATE!](#)

Additional OpenSeas Webinars (check the HeroX site for updates on recordings/slides).

### OpenSeas Office Hours:

OpenSeas, through the Power Connector Program, is providing open office hours to support teams participating in the challenge. Registration will be via the Calendly application identified below. Scheduled multiple times during June and July.

- Register [here](#) through calendly.

### OpenSeas One-on-One's:

Multiple 30-minute availabilities for providing support to individual teams to answer questions and provide mentoring. Requestors may reserve appointments for fixed available slots via the Calendly app, or schedule other times by contacting [lparks@odu.edu](mailto:lparks@odu.edu).

Fixed 30-Minute Availabilities:

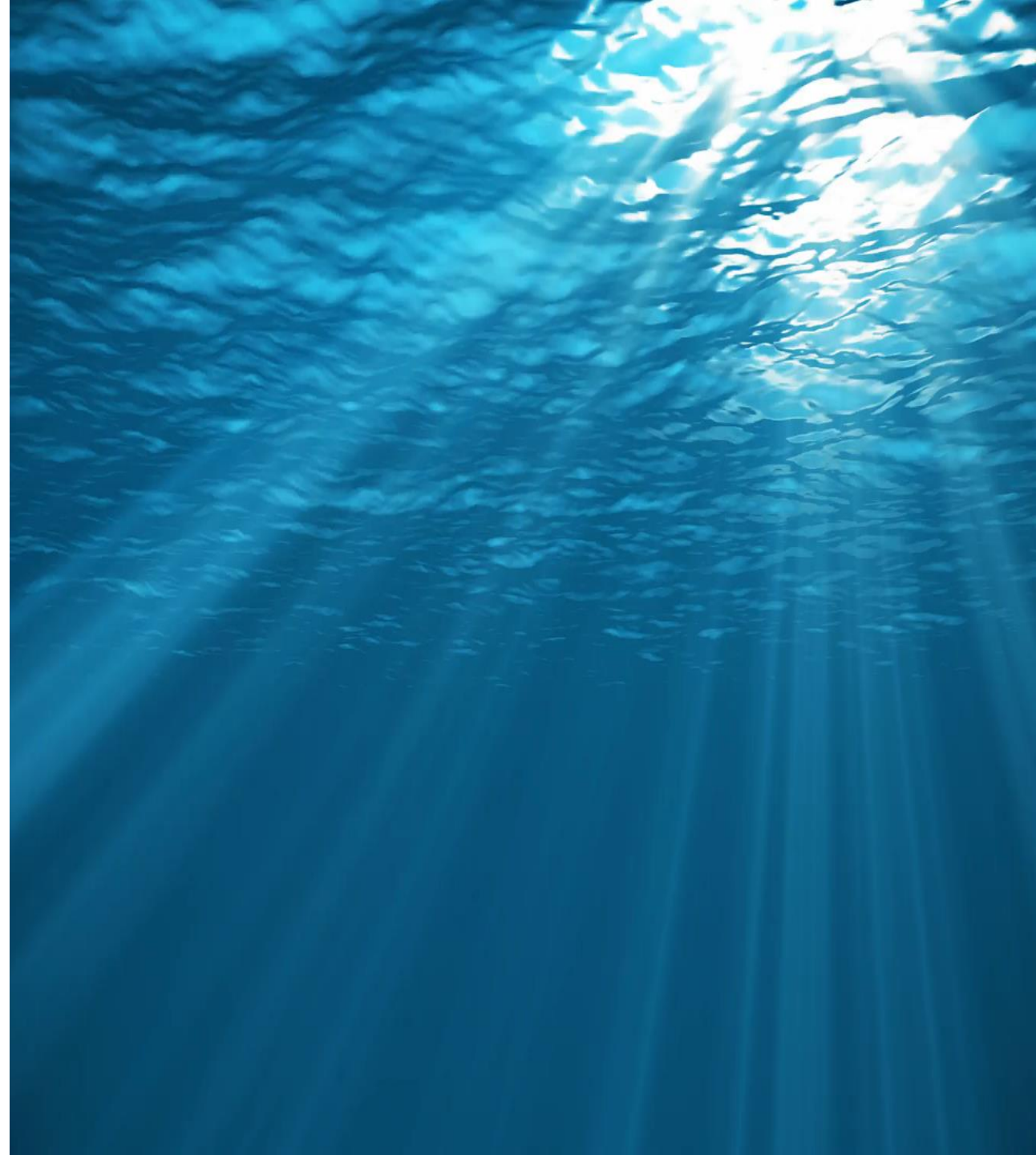
- Register [here](#) through calendly.

### Open Scheduling

- Check availability from 18 June through 23 July
- Contact [lparks@odu.edu](mailto:lparks@odu.edu)

# Agenda

- Prize Basics
- What we are looking for
- Who should apply
- How to apply
- What to submit
- Wrap-up
- Thank you & Questions





U.S. DEPARTMENT OF  
**ENERGY**

**Who is behind this prize?**

**Water Power Technologies Office (WPTO)**



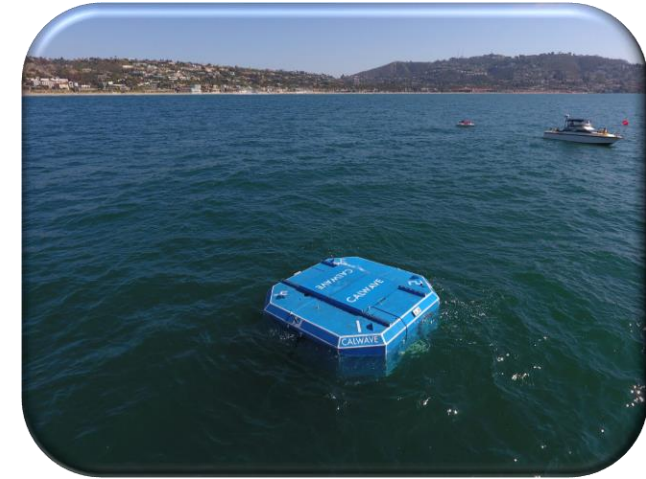


## Harness energy from the world's oceans

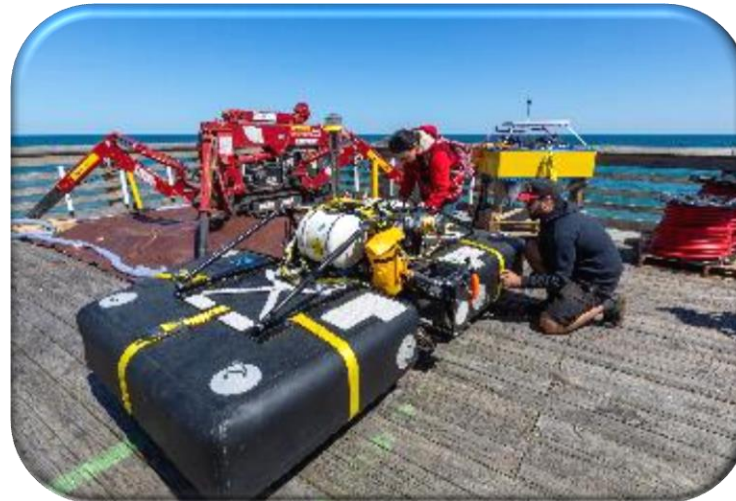
- Waves
- Tides
- Ocean Current
- River Current
- Thermal Gradients
- Salinity Gradients
- Pressure Gradients



NREL HERO WEC – Nags Head, North Carolina



CalWave – San Diego, California



Oneka – Nags Head, North Carolina



Verdant Power – New York, New York

# Powering the Blue Economy



Potential market opportunities where marine energy may hold a **unique value proposition** to meet the energy needs of the blue economy.

Technology attributes of marine energy beneficial to many blue economy markets:

- Ability to provide both **electrical and mechanical power**
- **Minimal surface expression** improving storm survivability
- Opportunities for **co-design and integration** with other infrastructure
- Ability to leverage **existing maritime supply chains**

Represents a new strategic focus for the marine energy program, supporting opportunities uniquely suited to marine energy attributes





U.S. DEPARTMENT OF  
**ENERGY**

What are we looking for?





# Prize Goals



Engage and cultivate a community of **new and existing participants in marine energy** to introduce new, creative minds to Powering the Blue Economy and the marine energy field, fostering the development of new concepts and lessons learned.



Identify **new, innovative, and feasible marine energy concepts** that have a high likelihood of providing power at sea in the near term to accelerate the commercialization of the nascent marine energy industry.



Introduce competitors to **WPTO and government funding mechanisms** and prepare them to compete technically and financially for future funding opportunities both within and beyond DOE



# Blue Economy Applications

Competitors must propose a tangible system, subsystem, or component that receives **more than or equal to 50% of energy needs** from one of the following marine energy resources: wave, tidal, ocean current, river, salinity gradients, or thermal gradients to power systems at sea.

Competitors will be required to choose one challenge area to address from the following list of specific **blue economy integration challenges** (listed in alphabetical order) that can be addressed in the marine energy concepts submitted to this prize (on next slide).

Estimated Power at Sea Device Power Usage (order of magnitude)					
	Milliwatts (mW)	Watts (W)	Kilowatts (kW)	Megawatts (MW)	Gigawatts (GW)
mCDR (including monitoring)	•	•	•	•	•
Ocean observation and navigation	•	•	•	•	
Marine aquaculture (including monitoring)	•	•	•	•	
Underwater vehicle charging		•	•		
Subsea communications		•	•	•	•
Mining seawater minerals and gasses			•	•	•
Data centers			•	•	•
Hydrogen electrolysis			•	•	•
Marine restoration			•	•	•
Pollution remediation			•	•	•
Offshore fuels production				•	•

This table defines applications that could use power at sea. **Applicants must identify** one of these examples or another application in their proposal.

# Blue Economy Integration Challenge Areas

Access	<i>How does your marine energy solution help to reduce the high cost or limited opportunities for service, maintenance, and/or intervention for at-sea blue economy applications?</i>
Deployment Duration	<i>How does your marine energy solution improve the deployment duration of at-sea blue economy applications?</i>
Energy Storage	<i>How does your marine energy solution improve the capabilities and duty cycles currently limited by battery capacity, especially considering that batteries may account for most of sensor volume and weight?</i>
Environmental/Ecological Impact	<i>How does your marine energy solution minimize the negative effects of interactions with local flora and fauna at the deployment site?</i>
Harsh Operational Conditions	<i>How does your marine energy solution minimize or otherwise address operations in challenging conditions like violent storms, strong currents, strong pressure (i.e., for subsea applications), corrosive media, and unwanted growth of marine organisms?</i>
Hybridization with Other Renewable Energy Resources	<i>How does your hybrid solution utilize marine energy to address power gaps caused by intermittency of other non-marine renewable energy resources like solar and wind due to seasonality and changing weather patterns?</i>
Suitability of Power	<i>How does your marine energy solution match power generation to power needs to maximize efficiency?</i>



U.S. DEPARTMENT OF  
**ENERGY**

# Who is Eligible to Apply?



# Eligibility

## You may compete as:

- Individuals;
  - Private entities (for-profits and nonprofits);
  - Non-federal government entities such as states, counties, tribes, and municipalities;
  - Academic institutions;
- 
- **Only submissions relevant to the technical areas** laid out in the official rules document will be considered.
  - Any submission may be refused for incompleteness or unresponsiveness to the technical topic areas.
  - **You do not need to compete as a team**, however in keeping with the goal of growing a community of innovators, competitors are encouraged to form multidisciplinary teams.
  - The HeroX platform provides a space where parties interested in collaboration can post information about themselves and learn about others who are also interested in competing in this contest. <https://www.herox.com/PowerAtSea/teams>

Please see the official rules document for the full eligibility requirements.

# Ineligibility

## You are NOT eligible, if the following apply:

- You are an individual who is NOT a US citizen or permanent resident and NOT competing on a team;
- You represent a private entity that is not incorporated in OR does not maintain a primary place of business in the US;
- You represent a federal entity in the US or abroad.
- You represent an academic institution outside of the US;
- You are a current DOE employee or the immediate family member of a DOE employee.
- You are a US federal employee.
- You are a DOE national laboratory employee.
- You or the entity you represent is publicly banned from doing business with the US government.
- You are participating in a foreign talent recruitment program sponsored by a country of risk.
- You represent an entity owned, controlled, or subject to the jurisdiction/direction of a government of a country of risk.

\*subject to the requirements listed in the official rules document.



U.S. DEPARTMENT OF  
**ENERGY**

# How To Apply!

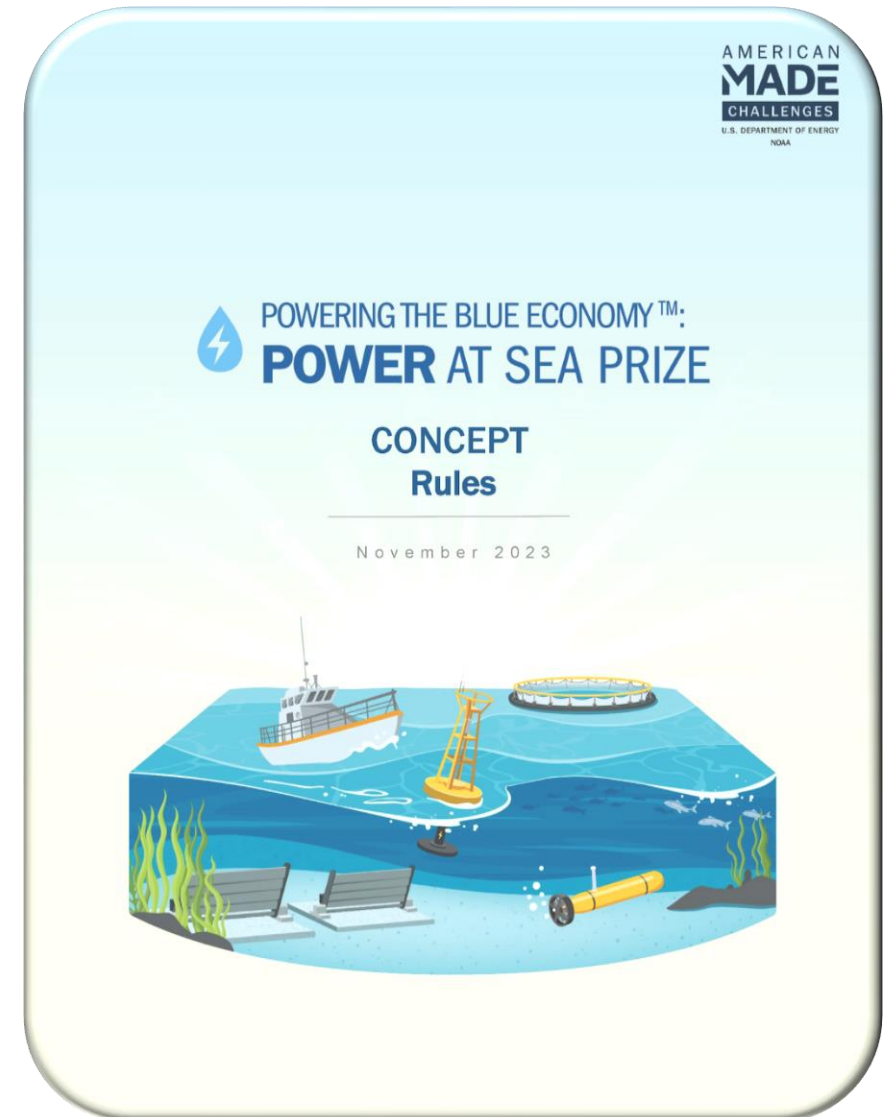


# Read the Rules

Topics covered in today's presentation can all be found in the Official Rules Document.

For a more in-depth look at these topics, please read the rules document, which is available here:

<https://americanmadechallenges.org/challenges/poweratsea/docs/Power-At-Sea-Prize-Rules.pdf>





# Go to HeroX: <https://www.herox.com/PowerAtSea>

**American-Made Challenges**

12,864 [Share](#) [Follow \(1K\)](#)

## Power At Sea Prize

Create reliable and cost-effective renewable power at sea to support Powering the Blue Economy™ initiatives. #PowerAtSea Prize

Energy, Environment & Resources Government

Stage: **OpenSeas Webinar: Market Segmentation & Alignment** Prize: **\$1,700,000**

**SOLVE THIS CHALLENGE**

Summary **Timeline** Updates <sup>4</sup> **Forum** <sup>13</sup> Teams <sup>1K</sup> Entries **Resources** FAQ More ^

Overview Guidelines **Webinars, Recordings, & OpenSeas Office Hours**

Share & follow the prize

Submit your idea!

Stay up-to-date

Communicate with the prize administration team

Access valuable resources like the rules and templates!

Register for upcoming webinars and office hours

Edit

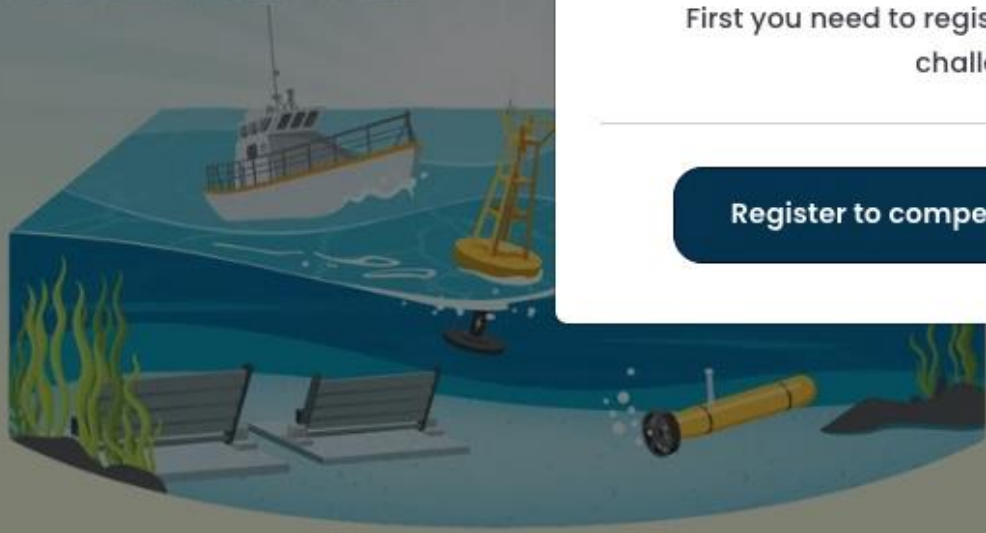
# American-Made Challenges

12,881

Share

Following (1K)

POWERING THE BLUE ECONOMY™:  
**POWER AT SEA PRIZE**



## Join the Challenge

First you need to register to compete in this challenge.

Register to compete

Cancel

## At Sea Prize

and cost-effective renewable  
to support Powering the Blue  
Initiatives. #PowerAtSea Prize

ment & Resources

Government

Stage:  
OpenSeas Webinar:  
Market Segmentation &  
Alignment

Prize:  
\$1,700,000

SOLVE THIS CHALLENGE

Summary

Timeline

Updates 4

Forum 13

Teams 1K

Entries

Resources

FAQ

More

## Power At Sea Prize Competitor Agreement

---

As a competitor, it is expected that you read, and comply with, the rules for the specific prize challenge you are participating in. Please read the [Official Rules Document](#) for this prize competition. By accepting this agreement on the HeroX platform, you are also accepting the terms and conditions of the Official Rules Document.

---

When you reach the bottom of the document, Accept Button will be enabled.

Accept



## < Competitor registration

Would you like to compete as a team? \*

Yes, I want to create my own team

Yes, I want to join a team

No, I want to compete individually

---

You still will be able to create or join other teams later.



🔔 You have successfully completed your registration! To start your submission, click on the Begin Entry button.

Edit



## American-Made Challenges

👁 12,881

Share

Following (1K)



# Power At Sea Prize

Create reliable and cost-effective renewable power at sea to support Powering the Blue Economy™ initiatives. #PowerAtSea Prize

Energy, Environment & Resources

Government

Stage:  
OpenSeas Webinar:  
Market Segmentation &  
Alignment

Prize:  
\$1,700,000

BEGIN ENTRY

JOIN A TEAM

Summary

Timeline

Updates <sup>4</sup>

Forum <sup>13</sup>

Teams <sup>1K</sup>

Entries

Resources

FAQ

More

Overview

Guidelines

# Create Your Submission

You may edit your responses until the deadline.

You must actively submit before the deadline.

If you are on a team your team members can edit but not submit – only the team captain/submission owner can submit.

This is only a draft. You can start now and complete your submission later!



## Create Submission

Save & Preview

### Section 1: Introduction

#### Title \*

Give your submission a catchy title that describes the idea and gets people interested.

Title

0/50

#### Short description

Provide a brief description of your idea. Be clear and concise.

Short description

0/140

#### Image

Supported File Types: **PNG, JPG**



An Image boosts your message by illustrating your solution. Ensure your image is at least 650 pixels wide by 366 pixels tall for clarity.



Upload Image

#### How did you hear about this challenge?

How did you hear about this challenge?

0/100

# Create Your Submission

You must confirm your eligibility as either an entity or individual (or group of individuals).

You must agree to these terms or your submission will be deemed ineligible.

## Section 2: Eligibility Acknowledgement

I confirm that I am submitting as either (select one): \*

Please confirm that your submission meets the eligibility requirements stated in the official rules.

- a representative of a private entity, such as corporation or other organization that is incorporated in and maintain a primary place of business in the United States;
- an individual or group of individuals who are legal residents of the United States.

I am providing this submission package as part of my participation in this prize. I understand that in providing this submission to the Federal Government, I certify under penalty of perjury that the named competitor meets the eligibility requirements for this prize competition and complies with all other rules contained in the Official Rules document. I further represent that the information contained in the submission is true and contains no misrepresentations. I understand false statements or misrepresentations to the Federal Government may result in civil and/or criminal penalties under 18 U.S.C. § 1001 and § 287. \*

Select agree or disagree. Please note that selecting "I disagree" will make your submission ineligible for the American-Made Challenges prize competition.

- I agree
- I disagree

Digital Signature \*

Please enter your full legal name.

Digital Signature

0/3000

In particular, by entering, I represent and warrant that: The competitor is the sole, original author and copyright owner of the submission or that the applicant has acquired sufficient rights to use and to authorize others, including DOE, to use the submission, as specified throughout the rules; that the submission does not infringe upon any copyright, trade secret, trade mark, non-disclosure agreement, patent, or upon any other third-party rights; and that the submission is free of malware. \*

Select agree or disagree. Please note that selecting "I disagree" will make your submission ineligible for the American-Made Challenges prize competition.

- I agree
- I disagree

# Create Your Submission

If you are not a part of a team, simply complete this section for yourself.

Team Name is used in communications about winners.

Team Location is used to map winners and in the announcement.

9-digit zip – critical for DOE reporting! This is used for congressional reporting.

## Section 3:

**Important! You must select "I agree" on the eligibility questions and complete all eligibility questions to proceed with your submission.**

## Section 4: Team

**Let us know who's on the team! This allows us to know who is part of each team and give credit to each member.**

### Team Name \*

What is your official team name? If you're selected, we'll use this name on various outreach and promotional materials.

*Team Name*

0/3000

### Team Members \*

Please provide the following details for each team member, in the format below. Use a new line for each.

*Team Members*

0/5000

### Team Location \*

Provide the location that your team is based from. If your team has members from various cities or states, please use the location of your team's captain or a primary business address (if applicable).

*Enter location*



### 9 Digit Zip Code \*

In the event you are selected as a semifinalist to advance in the challenge, we need to know the 9 digit zip code for your team.

If you do not know your 9 digit zip code, please use the USPS zip code look up tool to identify it.

<https://tools.usps.com/zip-code-lookup.htm>

*9 Digit Zip Code*

0/3000



# Create Your Submission

Paste link to video.

Upload Summary Page.

All of the information in the Technical Narrative Cover Page should be in the Summary Page – we recommend just saving that cover page as a separate file.

Technical Narrative – 10 pages excluding cover page and description.

## Section 5: Submission Package

### Link to your 3-minute video (public) \*

Post your publicly accessible video online (e.g. YouTube, Vimeo). Be creative and produce a video that conveys the required information in exciting and interesting ways but do not focus on time-consuming activities that only improve production values (i.e. technical elements such as décor, lighting, and cinematic techniques). Assistance from others with experience in this area may be helpful. The American-Made Network may be able to help you with creating your video.

[Link to your 3-minute video \(public\)](#)

### Summary Page (to be made public) \*

The Summary Page will be made public and is intended to introduce the competitor and the proposed project.

This information should include:

- Title.
- Competitor team name and contributing team member names.
- Organization (name, contact information, web link, 9-digit ZIP code).
- Challenge area from the list included in Section 2.3.1.
- Blue economy application from Table 2 in Section 2.2.
- Short description of the proposed plan, activities, and use of the prize funds.
- Link to the 3-minute video pitch.

### Technical Narrative \*

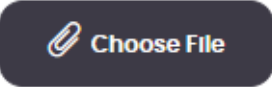
The scored Technical Narrative, describing the solution, is the primary component of the submission and should provide a clear description of the concept.

The Technical Narrative should provide responses to the scoring statements outlined in the evaluation criteria.

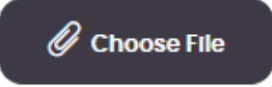
The total page count of the technical narrative must not exceed 10 pages. The document font size must be 10.5 or greater, with margins of no less than .25 inch minimum on all sides.

The narrative may also include up to five supporting visualizations or graphics.

Supported File Types: , **PDF, DOC, DOCX, PPT, PPTX, JPG, JPEG, PNG**

 Choose File

Supported File Types: , **PDF, DOC, DOCX**

 Choose File

# Create Your Submission

Select just one challenge area.

Select all applicable power estimates.

Due to end of fiscal year – take care to make sure this matched your W-9 exactly. Errors will cause payment delays.

Choose one challenge area to address from the following list of specific blue economy integration challenges (listed in alphabetical order). \*

For full descriptions of each challenge area – please refer to the Official Rules Document Section 2.3.1

- Access
- Deployment duration
- Energy storage
- Environmental/ecological impact
- Harsh operational conditions
- Hybridization with other renewable energy resources
- Suitability of power:

Estimated Power at Sea Device Power Usage (order of magnitude)

- Milliwatts (mW)
- Watts (W)
- Kilowatts (kW)
- Megawatts (MW)
- Gigawatts (GW)

If you receive an award for this Prize, who will receive the award? \*

Please enter the legal name of the entity you wish to receive the full award payment. This should match the name in Line 1 of a W-9 Form exactly. While this is not binding, and you can change the for-profit entity at the time of winning of the prize, please note that any changes could delay payment up to 3 months and require additional documentation for auditing purposes internal to NREL.

*If you receive an award for this Prize, who will receive the award?*

0/3000

# Create Your Submission

Optional reporting metrics are not seen by reviewers.

These are for our reporting on prizes.

Answering or not answering do not impact your evaluation but do impact our ability to report on prize participation.

## Section 6: Optional Reporting Metrics

Representation and equity matter to the prize, and we ask these questions to better understand diversity in our programs.

These questions are optional, so you can skip them and still complete your submission. If you choose to answer, NREL will store a record of your response indefinitely. We intend to use this information in aggregate, and not specifically tied to individual submission packages.

For more information, see NREL's Security and Privacy Policy here: <https://www.nrel.gov/security.html>.

With which gender identity do you most identify?

- Male
- Female
- Nonbinary
- I choose not to disclose

What best describes your race/ethnicity? Check one or more options from the following list:

- Asian
- African American
- Alaskan Native
- Black
- Hispanic
- Latinx
- Multiracial
- Native American
- Pacific Islander
- White
- Other
- I choose not to disclose

Do you have a degree/formal training in science, technology, engineering, or math?

- Yes
- No
- I choose not to disclose

What generational age group describes you?

- Pre-Baby Boomer (born pre-1946)
- Baby Boomer (born 1946-1964)
- Generation X (born 1965-1980)
- Millennial (born 1981-1996)
- Generation Z (born post-1996)
- I choose not to disclose

Are you a first-time U.S. Department of Energy prize competitor?

- Yes
- No

Have you or your organization applied for U.S. Department of Energy funding in the past?

- Yes
- No

If you selected "Yes" on the previous question, have you received funding from the U.S. Department of Energy in the past?

- Yes
- No

Please indicate the age of your organization?

- 0-5 years
- 6-10 years
- 11-20 years
- 21 or older years

Please specify the geographic focus of your organization? (Check all that apply)

- Local
- Regional
- National
- International

Please indicate which description best describes your organization

- Nonprofit/non-governmental organization
- Non-federal governmental organization
- Energy Provider
- Academic Organization
- Other For-Profit/Industry
- Other

If you selected "other" in the previous question, please specify:

*If you selected "other" in the previous question, please specify:*

0/3000

# Create Your Submission

Last few optional questions, then time to save and preview.

Then submit!



**Submit Final Submission**  
materials prior to  
**July 26, 2024**

Please indicate the percentage of traditionally underrepresented minorities employed at your organization (Asian, African American, Alaskan Native, Black, Hispanic, Latinx, Middle Eastern, Multiracial, Native American, North African, Pacific Islander)

- 0-10%
- 11-20%
- 21-40%
- 41-60%
- Over 61%
- Prefer not to answer

Please indicate the percentage of those employed at your organization that identify as women, non-binary, transgender, or gender non-conforming.

- 0-10%
- 11-20%
- 21-40%
- 41-60%
- Over 61%
- Prefer not to answer

< Cancel

Save & Preview



# POWERING THE BLUE ECONOMY™: **POWER AT SEA PRIZE**



AMERICAN  
**MADE**

**CHALLENGES**

U.S. DEPARTMENT OF ENERGY  
NOAA

## CONCEPT PHASE

**Up to \$200,000  
Cash Prize Pool**

**Up to \$10,000 for  
up to 20 teams**

- **November 13, 2023**  
CONCEPT Phase Submission Open
- **July 26, 2024, at 5 p.m. ET**  
CONCEPT Phase Submission Close
- **August 2024**  
CONCEPT Phase Winner Announcement



U.S. DEPARTMENT OF  
**ENERGY**

What do you submit?



# Submission Requirements

## Summary Slide

- Public
- Accept/Reject
- Competitors will identify basic information about their submission,
- This information should not exceed a single page.
- Should include:
  - Title
  - Competitor team name and contributing team member names
  - Organization
  - Challenge area
  - Blue economy application
  - Short description of the proposed plan, activities, and use of the prize funds.
  - Link to the 3-minute video pitch.

## 3-Minute Video Pitch

- Public
- Scored
- Competitors will produce a 3-minute video that will help the reviewers and public understand the competitor, the concept, and the relevant market the technology intends to serve.
- Competitors should be creative and convey information in a fun and engaging way.
- Reviewers will focus on the content, not the quality, of the video production, as this is intended to primarily help introduce someone to the technical concept.

## Technical Narrative

- NOT Public
- Scored
- Competitors will write a detailed narrative describing the solution.
- There is a template available.
- The total page count must not exceed 10 pages.
- Acceptable fonts and margins are listed in the official rules document.
- The narrative may also include up to five supporting visualizations or graphics.



# Scoring and Criteria

All scored submission components will be scored on how well the competitor addresses the statements in each criterion; each statement will be scored by reviewers on a 0–5 scale.

Scoring Criteria: 3-Minute Video and Technical Narrative	
<p>Suggested Content Competitor Provides:</p> <ul style="list-style-type: none"> <li>• Example: An introduction to the team</li> </ul>	<p>Each Statement Scored on a 0–5 Scale:</p> <ul style="list-style-type: none"> <li>• Example: The competitor has provided a thorough description of the team and their relevant experience, qualifications, and capabilities.</li> </ul>
<p>On the <b>left-hand side</b> are suggested content you could provide to address the scored statements.</p>	<p>On the <b>right-hand side</b> are the exact scoring statements that reviewers will use to score your submission.</p>

0	1	2	3	4	5
Strongly Disagree/ Does Not Address	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree/ Fully Addresses

# Scoring and Criteria

Scoring Criteria	Number of Scored Statements	Total Possible Points
<b>3-Minute Video Pitch</b>	<b>4</b>	<b>20</b>
<b>Technical Narrative</b>	<b>14</b>	<b>70</b>
○ <b>Criterion 1:</b> Identification of Application and Challenge Area	3	15
○ <b>Criterion 2:</b> Proposed System, Subsystem, or Component	6	30
○ <b>Criterion 3:</b> Team Engagement and Planned Development	5	25
<b>TOTAL</b>	<b>18</b>	<b>90</b>

## Video Tips and Tricks

- Video link should be set to public.
- Recommended platforms: Vimeo and YouTube
- You are not being scored on production quality, but be sure your video is intelligible to reviewers.

## Narrative Tips and Tricks

- Let the template be your guide.
- Recommended formats: .doc/.docx or .pdf
- Maximize your five visualizations or graphics, by making sure they are easy to read.
- Cover page is not included in page count.

# Stay in Touch!

For more information, visit:

- HeroX: [www.herox.com/poweratsea](http://www.herox.com/poweratsea)
- American Made Challenges: [www.americanmadechallenges.org/challenges/poweratsea](http://www.americanmadechallenges.org/challenges/poweratsea)
- Email: [poweratsea@nrel.gov](mailto:poweratsea@nrel.gov)

Sign up for our newsletters!



[Water Column](#) (monthly marine energy news)



[Hydro Headlines](#) (monthly hydropower news)



[Water Wire](#) (bi-monthly marine energy and hydropower news)



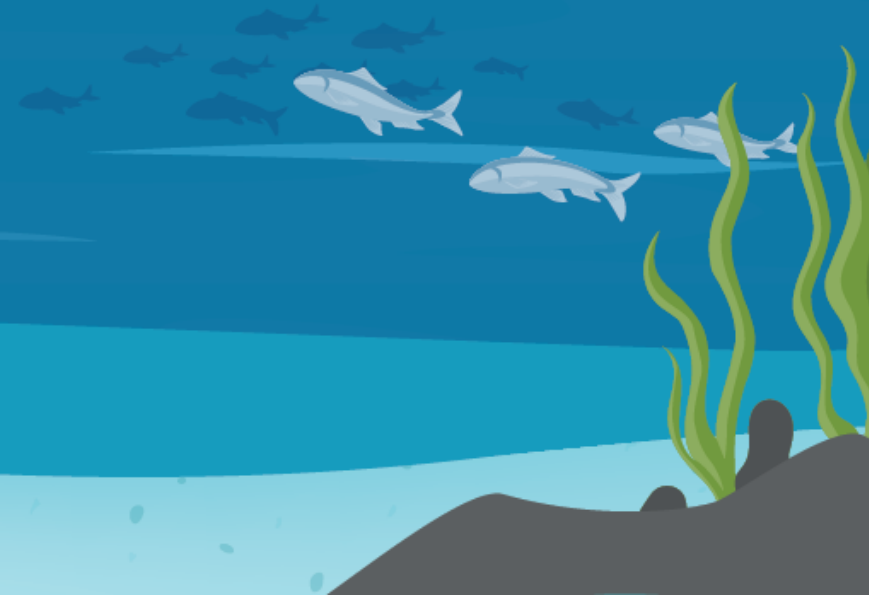
PowerAtSea@NREL.gov

Thank you & Questions



[HeroX.com/poweratseapriz](https://HeroX.com/poweratseapriz)  
[#PowerAtSea Prize](https://twitter.com/PowerAtSeaPrize)

# EXTRA SLIDES



# Technical Narrative: Criterion 1

## Scoring Criteria: Technical Narrative Criterion 1 – Identification of Application and Challenge Area

### Suggested Content Competitor Provides

- Identification of relevant Power at Sea blue economy application and challenge area, selected from Table 2 in Section 2.2 and the list in Section 2.3.1, respectively. Alternatively, competitors may provide a clear description of an application and/or challenge area not listed but must clearly describe the background on why they are proposing in these areas and justify the benefit to marine energy.
- Clear description of how the proposed system, subsystem, or component will address the challenge area identified and serve the proposed end use.
- A description of how the concept builds upon past work, including any previous work related to the concept, and any DOE funding that supported the concept (if applicable).

### Each Statement Scored on a 0–5 Scale

- The system, subsystem, or component is adequately described and is a novel approach to resolving the identified integration challenge.
- The system, subsystem, or component has the potential to serve the identified blue economy application and will meet the needs of the blue economy application.
- The proposed concept is either a newly developed, novel concept or builds on previous research pursued.

# Technical Narrative: Criterion 2

## Scoring Criteria: Technical Narrative Criterion 2 – Proposed System, Subsystem, or Component

### Suggested Content Competitor Provides

- Conceptual drawings (e.g., images of 3D CAD drawings, etc.) of your system, subsystem, or component.
- Demonstration that the power generation potential meets application requirements, including a table or list of key (known or likely) design requirements for the identified application.
- Identification of physical traits of the system, subsystem, or component such as size, weight, materials, etc.
- Explanation of how the system, subsystem, or component may be built, deployed, maintained, and recovered and/or decommissioned at the end of its useful life.
- Explanation of how the system, subsystem, or component may address key operating constraints, like biofouling, corrosion, or long-term calibration.
- Estimated life expectancy of the system, subsystem, or component.
- Description of the method of energy storage and power management, if applicable, and associated specifications on the storage system (capacity, charge and discharge rate, etc.).
- If applicable, provide evidence of avoided costs, e.g., ship time, maintenance costs, etc.
- Describe the current technology readiness of the system, subsystem, or component.

### Each Statement Scored on a 0–5 Scale

- The system, subsystem, or component represents an innovative approach built on reasonable assumptions, valid technical foundations, and lessons learned from other notable efforts in this space.
- The applicant justifies the method of power generation and has sufficiently explained its principles of operation.
- The submission adequately communicates key (known or likely) design requirements and initial thoughts on how these could be addressed in the proposed system, subsystem, or component.
- The applicant has communicated initial thoughts on methods for manufacturing, installing, operating, and maintaining the proposed system, subsystem, or component.
- The proposed system, subsystem, or component is between concept and early-stage prototype.
- The submission is technically feasible (0 or 5).



# Technical Narrative: Criterion 3

## Scoring Criteria: Technical Narrative Criterion 3 – Team Engagement and Planned Development

### Suggested Content Competitor Provides

- Describe the team makeup and how the team will cultivate a culture of inclusion to ensure all team member’s contributions are considered.
- Describe potential challenges the team may face in creating an inclusive environment and making accommodations for team members, and how the team plans to address those challenges.
- Create a DEVELOP Phase Gantt chart, schedule, and work breakdown structure.
- Outline specific risks and a risk management approach to project design, including a description for how the planned work will reduce missing information and risks and increase prospects of successful outcome.
- A description of the competitor support mechanisms leveraged during the CONCEPT Phase and how they influenced the CONCEPT submission, and a description of plans to leverage competitor support during the DEVELOP Phase. Forward looking support may include support that would be helpful but is not listed in Section 3.

### Each Statement Scored on a 0–5 Scale

- The competitor has clearly outlined a plan to cultivate a culture of inclusion, seek out diverse perspectives, and effectively consider all team member’s contributions.
- The competitor has a clear plan to accommodate a diverse team and any team members’ specific needs.
- The competitor has provided detailed plans for proceeding with the development of the proposed concept in the next phase.
- The competitor identifies risks and the challenges in maturing the technology and has plans that are likely to manage these identified risks.
- The competitor has already engaged and commits to continuing to engage with the competitor support mechanisms provided in the DEVELOP Phase.

# 3-Minute Video Pitch Criteria

Scoring Criteria: 3-Minute Video Pitch	
<p><b>Suggested Content Competitor Provides</b></p> <ul style="list-style-type: none"><li>• A high-level description of the concept the competitor aims to develop through this prize should the submission be selected.</li><li>• An explanation of the blue economy applications the concept aims to serve with further development of their technology.</li><li>• A clear connection to how the proposed system, subsystem, or component can address the identified challenge area.</li></ul>	<p><b>Each Statement Scored on a 0–5 Scale</b></p> <ul style="list-style-type: none"><li>• The described system, subsystem, or component appears technologically viable with further development.</li><li>• The competitor has demonstrated a clear understanding of the blue economy application they intend to support with further development of their technology.</li><li>• The proposed system, subsystem, or component has the potential to resolve the challenge area they aim to address.</li><li>• The video presents the system, subsystem, or component in a clear and understandable way.</li></ul>



POWERING THE BLUE ECONOMY™:  
**POWER AT SEA PRIZE**



AMERICAN  
**MADE**  
CHALLENGES

U.S. DEPARTMENT OF ENERGY  
NOAA

**CONCEPT PHASE**

Up to \$200,000  
Cash Prize Pool

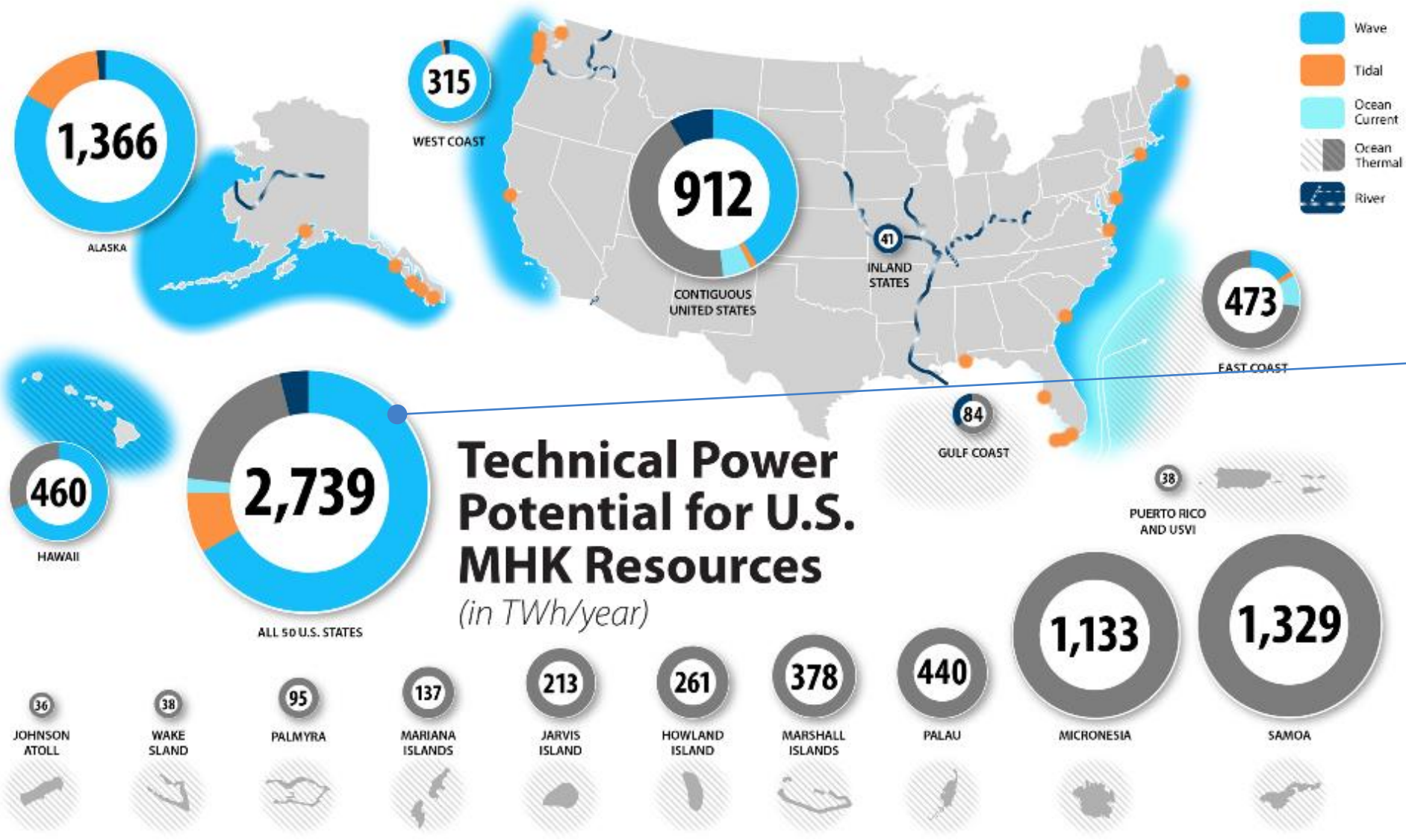
Up to \$10,000 for  
up to 20 teams

**DEVELOP PHASE**

Up to \$1,500,000  
Cash Prize Pool

Up to \$75,000 for  
up to 20 teams

# The Size of the Marine Energy Resource is Significant



Equivalent to 57% of electricity generated in the U.S. in 2019

# Frequently Asked Questions

Previously answered questions will be archived on HeroX

[www.herox.com/PowerAtSea/faq](http://www.herox.com/PowerAtSea/faq)

## [Does the proposed solution need to include wave or tidal energy?](#)

As stated in the Official Rules Document Section 1.2 Applications of Interest, the prize is seeking solutions which receives 50% or more of its energy needs from one of the following marine energy resources to power systems at sea: wave, tidal, ocean current, river, salinity gradients, or thermal gradients.

Hybrid technologies are acceptable, including other renewable resources and batteries, but all solutions must meet the 50% requirement to be applicable for a U.S. DOE Water Power Technologies Office Prize.

## [Do I need to be a U.S. citizen?](#)

We cannot determine eligibility in advance of receiving a competitors submission so we would refer you to the official rules document on eligibility to determine which apply to you. However consider:

- An individual prize competitor (who is not competing as a member of a group) must be a U.S. citizen or permanent resident.
- A group of individuals competing as one team may win, provided that the online account holder of the submission is a U.S. citizen or permanent resident. Individuals competing as part of a team may participate if they are legally authorized to work in the United States.
- Private entities must be incorporated in and maintain a primary place of business in the United States.

## [Do I have to register on HeroX.com to follow the challenge, leave a comment or register to compete in the challenge?](#)

Yes, but it's quick and easy. Just click the "Solve this Challenge" button on this page and follow the instructions to complete your registration. All you need to provide is your name and email address.

## [I have a question that was not answered in the FAQ. Who can I contact?](#)

If you have a question not answered in the FAQ, we recommend that you post it in the Forum where someone will respond to you. This way, others who may have the same question will be able to see it.

# Links

- [Power at Sea Prize Overview https://www.herox.com/PowerAtSea/resource/1619](https://www.herox.com/PowerAtSea/resource/1619)
- [Power at Sea Prize: ASK! https://www.herox.com/PowerAtSea/resource/1814](https://www.herox.com/PowerAtSea/resource/1814)
- [Power at Sea Prize: EXPLORE! https://www.herox.com/PowerAtSea/resource/1815](https://www.herox.com/PowerAtSea/resource/1815)
- [Power at Sea Prize: INNOVATE! https://www.herox.com/PowerAtSea/resource/1815](https://www.herox.com/PowerAtSea/resource/1815)
- HeroX Prize Page <https://www.herox.com/PowerAtSea/>
- [Forum: https://www.herox.com/PowerAtSea/forum](https://www.herox.com/PowerAtSea/forum)
- Prize Resources: <https://www.herox.com/PowerAtSea/resources>
- Prize FAQ: <https://www.herox.com/PowerAtSea/faq>
- Webinars page: <https://www.herox.com/PowerAtSea/272-webinars-recordings-openseas-office-hours>
- Timeline: <https://www.herox.com/PowerAtSea/timeline>
- Updates! <https://www.herox.com/PowerAtSea/updates>
- Rules: <https://americanmadechallenges.org/challenges/poweratsea/docs/Power-At-Sea-Prize-Rules.pdf>